

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FIORENZO RENZI, ANDREA BENDANDI, ROBERTO FORESTIERI,
and NEREO NODARI

Appeal No. 2003-1960
Application No. 09/830,841

ON BRIEF

Before PAK, WALTZ, and TIMM, Administrative Patent Judges.
WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's final rejection of claims 1 through 27, which are the only claims in this application.¹ The examiner has indicated that claim 27 is no longer rejected, but is objected to as being dependent upon a rejected base claim and would be allowable if rewritten in independent form including all of the limitations of the base

¹An amendment subsequent to the final rejection, filed with the Brief dated Sep. 3, 2002, Paper No. 13, amended claim 25 on appeal and was entered as noted in the Answer, page 2.

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claim and any intervening claims (Answer, page 2, ¶(3)).

Accordingly, the claims under rejection in this appeal are claims 1 through 26. We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to a liquid composition which is polymerizable, by means of radical polymerization with low shrinkage, into organic glasses, comprising the product obtained from the transesterification of a diallylcarbonate (A) with a mixture of one or more linear or branched aliphatic diols (B), containing from 3 to 10 carbon atoms in the molecule, with a linear or branched aliphatic polyol (C), containing from 4 to 20 carbon atoms in the molecule, where the molar ratio (A)/(B+C) ranges from 2.5/1 to 4/1 and the quantity of (C) in the mixture (B+C) ranges from 5% by weight to 20% by weight with respect to the total weight of the mixture (Brief, page 2). A copy of representative independent claim 1 is attached as an Appendix to this decision.

The examiner relies upon Renzi et al. (Renzi), U.S. Patent No. 4,970,293, issued Nov. 13, 1990, as evidence to support the sole rejection on appeal (Answer, page 3, ¶(9)). Claims 1-26 stand rejected under 35 U.S.C. § 102(b) as "clearly anticipated" by Renzi (Answer, page 3, with reference to the final rejection of Paper No. 7 for a statement of the rejection). Since we determine that the

examiner has not met the initial burden necessary to establish a *prima facie* case of anticipation, we reverse the rejection on appeal. However, we also *remand* this application to the jurisdiction of the examiner for further action consistent with our remarks below.

OPINION

The examiner finds that Renzi discloses liquid glass forming compositions made from the reaction of diallyl carbonate and a diol mixture (Paper No. 7, page 2). The following factual findings are not disputed:

(1) Renzi discloses that the molar ratio (A)/(B+C) is equal to or larger than 3/1, preferably 3/1 to 12/1 (Paper No. 7, page 2; Brief, page 5; Answer, pages 4-5; Renzi, col. 1, l. 68-col. 2, l. 9);

(2) Renzi discloses an amount of (C) in the (B+C) mixture is equal to or lower than 70% by weight, preferably from 20 to 60% by weight (*id.*);

(3) claim 1 on appeal requires that the molar ratio (A)/(B+C) is from 2.5/1 to 4/1 (Paper No. 7; see claim 1 on appeal);

(4) claim 1 on appeal requires that the amount of (C) in the (B+C) mixture range from 5 to 20% by weight (*id.*);

(5) Renzi discloses several examples with a molar ratio of (A)/(B+C) at exactly 4/1 (Brief, page 9; Answer, page 5; Renzi, at least Composition Nos. 1 and 4 in Table 1 of Example 4); and

(6) Renzi does not disclose any example where the amount of (C) in the mixture (B+C) is less than 25% by weight (Brief, page 9; Renzi, at least Compositions 1 and 2 in Table 1 in Example 4). From these findings, the examiner concludes that all of the limitations of claim 1 are met by the Renzi disclosure (Paper No. 7, page 2).

As framed by the examiner, the "only remaining issues are the relative amounts and ratios of the various components" (Answer, page 4) and the "sole question is whether the prior art disclosed said components in the amounts as claimed" (Answer, page 5, emphasis omitted).² Based on the examples of Renzi disclosing a molar ratio of (A)/(B+C) of 4/1, the examiner concludes that Renzi

²We note that neither appellants nor the examiner have presented any analysis of the claim based on its format, i.e., claim 1 recites a liquid composition product obtained by a process. A rejection based alternatively on section 102 or section 103 of a product-by-process claim has different burdens of proof for both appellants and the examiner. See *In re Spada*, 911 F.2d 705, 707-08, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990); *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977); and *In re Fessman*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974).

discloses the claimed molar ratio with "sufficient specificity" to constitute anticipation (Answer, page 5). Based on the disclosed preferred range of Renzi for $(C)/(B+C)$, the examiner concludes that both patentees and appellants claim an amount of 20% by weight (*id.*). In other words, the preferred range of Renzi includes a lower limit of 20% by weight for the amount of $(C)/(B+C)$, which touches the 20% by weight upper endpoint of the claimed range.³

Anticipation is a question of fact. See *In re Paulsen*, 30 F.3d 1475, 1478, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994). It is well settled that the initial burden of proof in establishing unpatentability, on any ground, rests with the examiner. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). "[A]nticipation under § 102 can be found only when the reference discloses exactly what is claimed and that where there are differences between the reference disclosure and the claim, the rejection must be based on § 103 which takes differences into account. D. Chisum, *Patents* § 3.02." *Titanium Metals Corp. of*

³Even assuming that the examiner's rejection and analysis were correct, the examiner has not explained why claim 26 should be included in a rejection based on anticipation involving "touching" at an endpoint. See *Haynes Int'l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1577 n.3, 28 USPQ2d 1652, 1655 n.3 (Fed. Cir. 1993); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 781, 227 USPQ 773, 779 (Fed. Cir. 1985). See the Brief, page 9, regarding separate arguments for claim 26.

America v. Banner, 778 F.2d at 780, 227 USPQ at 777. "[I]t has long been held that the disclosure in the prior art of any value within a claimed range is an anticipation of the claimed range." *In re Wertheim*, 591 F.2d 257, 267, 191 USPQ 90, 100 (CCPA 1976). However, in the fact situation unique to this appeal, the examiner has only cited examples which fall within one of the claimed ranges, and has failed to point to any specific embodiment or example describing values within both claimed ranges (see factual finding (6) above).

The mere existence of overlap at one point ("touching" at one endpoint) in a range for an amount of a reactant used in a reaction to form the claimed and prior art product does not *per se* provide a description of the claimed product within the meaning of section 102. See *In re Peterson*, 315 F.3d 1325, 1329-30, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003) ("A prima facie case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art," with selection of a narrow range from within a somewhat broader range disclosed in a prior art reference no less obvious than identifying a range that simply overlaps a disclosed range; in fact, when the claimed ranges are completely encompassed by the prior art, the conclusion of obviousness is even more compelling than in cases of mere overlap). In cases involving

overlapping ranges, our reviewing and predecessor court have consistently held that even a slight overlap in range establishes a *prima facie* case of obviousness. See *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997) (acknowledging that a claimed invention was rendered *prima facie* obvious by a prior art reference whose disclosed range (50 to 100 Angstroms) overlapped the claimed range (100 to 600 Angstroms)); *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990) (concluding that a claimed invention was rendered obvious by a prior art reference whose disclosed range (about 1-5% carbon monoxide) abutted the claimed range (more than 5% to about 25% carbon monoxide)); and *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974) (concluding that a claimed invention was rendered *prima facie* obvious by a prior art reference whose disclosed range (0.020-0.035% carbon) overlapped the claimed range (0.030-0.070% carbon)).

Thus, in view of the above authority, we determine that the examiner's mere establishment of overlap in one range of the reactants used to form the claimed and prior art products does not alone meet the initial burden of proof or establish a factual foundation sufficient to support a *prima facie* case of anticipation. Accordingly, we cannot sustain the examiner's

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rejection of claims 1-26 under section 102(b) as anticipated by Renzi.

REMAND TO THE EXAMINER

In view of the above authority, it is clear that the examiner, upon return of this appeal to the examiner's jurisdiction, should reconsider the patentability of the claimed subject matter under 35 U.S.C. § 103(a), including consideration of appellants' showing of unexpected results (Brief, page 9, citing Tables 1, 2 and 3 of the specification).⁴ Appellants' showing of unexpected results must be commensurate in scope with the claimed range, as well as the claimed components. See *In re Peterson*, 315 F.3d at 1330-31, 65 USPQ2d at 1383.

⁴Since it is undisputed that Renzi discloses an amount of (C)/(B+C) equal to or smaller than 70% by weight (col. 2, ll. 1-3), while claim 27 requires an amount of (C)/(B+C) of 5 to 13.4% by weight, the examiner should also reconsider the indication of allowability of this claim. See *In re Peterson*, *supra*.

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The decision of the examiner is reversed.

REVERSED AND REMANDED

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| CHUNG K. PAK |) | |
| Administrative Patent Judge |) | |
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| |) | BOARD OF PATENT |
| THOMAS A. WALTZ |) | APPEALS |
| Administrative Patent Judge |) | AND |
| |) | INTERFERENCES |
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| |) | |
| CATHERINE TIMM |) | |
| Administrative Patent Judge |) | |

TAW/jrg

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Michael W. Ferrell
Ferrell & Ferrell
90 Crystal Run Road Suite 401
Middletown, NY 10941

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APPENDIX

1. A liquid composition which is polymerizable, by means of radical polymerization with low shrinkage, into organic glasses, comprising the product obtained from the transesterification of a diallylcarbonate (A) with a mixture of one or more linear or branched aliphatic diols (B), containing from three to ten carbon atoms in the molecule with a linear or branched aliphatic polyol (C), containing from four to twenty carbon atoms and from three to six hydroxyl groups in the molecule, wherein the molar ratio (A) (B+C) ranges from 2.5/1 to 4/1 and the quantity of (C) in the mixture (B+C) ranges from 5% by weight to 20% by weight with respect to the total weight of said mixture (B+C).